

### REMARKS

The Office Action mailed June 15, 2005 has been carefully reviewed and the foregoing amendments have been made in consequence thereof.

Claims 1, 2, and 4-18 are now pending in this application. Claims 1-18 stand rejected.

The objection to the drawings under 37 C.F.R. 1.84(p) is respectfully traversed. Specifically, the specification has been amended at paragraph 0025 to recite body 44. In addition, Figure 5 has been amended to remove reference numbers 100, 102, and 104. The attached sheet of replacement drawings includes changes to Figure 5. This replacement sheet including Figure 5, replaces the original sheet which included Figure 5. No new matter has been added. Accordingly, for at least the reasons set forth above, Applicant respectfully requests the objections to the drawings be withdrawn.

The objection to the specification is respectfully traversed. In the Amendment of March 29, 2005, Applicant inadvertently duplicated paragraph 0025. No amendments to paragraph 0024 were intended by the amendment of March 29, 2005. Accordingly, for at least the reasons set forth above, Applicant respectfully requests the objections to the specification be withdrawn.

The rejection of Claims 1-6, 9, 11-14, 17, and 18 under 35 U.S.C. § 102(b) as being anticipated by Ziegler (U.S. Patent No. 4,187,610) is respectfully traversed.

Ziegler describes a ligation chain (10) that is formed from a continuous wire such that a loop (12) is formed on a first end of the chain, and a plurality of eyelets (14) extend from the loop to a second end (13) of the chain. More specifically, the ligation chain is **braided** such that at least four or more tight twists (15a) are formed between adjacent eyelets. Moreover, the chain described in Zeigler extends substantially linearly between the ends. Notably, Zeigler does not describe nor suggest that the chain may apply a substantially constant force to the tooth, but rather, as described at column 3, lines 61-65, chain **must be continuously repositioned** and retied to maintain a sufficient eruption force to a tooth.

Claim 1 recites an apparatus for facilitating treatment of a tooth that is at least partially impacted, wherein the apparatus comprises “a wire comprising a first end, a second end, and a substantially planar body extending non-linearly therebetween, said body is unbraided between said first and second ends . . . .”

Zeigler does not describe nor suggest an apparatus for facilitating treatment of a tooth that is at least partially impacted, wherein the apparatus comprises a wire having a substantially planar body extending non-linearly between a pair of ends, wherein the body is unbraided between its ends. Rather, in contrast to the present invention, Zeigler describes a ligation chain extends substantially linearly, and is braided, between its ends. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Zeigler.

Claim 3 has been canceled. Claims 2, 4-6, and 9 depend from independent Claim 1. When the recitations of Claims 2, 4-6, and 9 are considered in combination with the recitations of Claim 1, Applicant submits that dependent Claims 2, 4-6, and 9 likewise are patentable over Zeigler.

Furthermore, and with respect to Claim 5, Zeigler does not describe nor suggest an apparatus that couples to a tooth without circumscribing the tooth, but rather describes that the first end of the chain is looped around the tooth such that the chain end circumscribes the tooth.

Claim 11 recites a method for treating a tooth that is at least partially impacted. The method comprises “coupling a first end of a wire to an impacted tooth, the wire having a substantially planar and non-linear body extending between the first end and a second end wherein the body is unbraided between the first and second ends . . . .”

Zeigler does not describe nor suggest a method for treating a tooth that is at least partially impacted wherein the method includes coupling a first end of a wire to an impacted tooth wherein the wire has a substantially planar and non-linear body extending between its ends, and wherein the body is unbraided between the first and second ends. . Rather, in contrast to the present invention, Zeigler describes a ligation chain extends substantially

linearly, and is braided, between its ends. Accordingly, for at least the reasons set forth above, Claim 11 is submitted to be patentable over Zeigler.

Claims 12-14, 17, and 18 depend from independent Claim 11. When the recitations of Claims 12-14, 17, and 18 are considered in combination with the recitations of Claim 11, Applicant submits that dependent Claims 12-14, 17, and 18 likewise are patentable over Zeigler.

Accordingly, for at least the reasons set forth above, Applicant respectfully requests the Section 102 rejection of Claims 1-6, 9, 11-14, 17, and 18 be withdrawn.

The rejection of Claims 1-3, 5, 6, 8, 9, 11-14, and 16-18 under 35 U.S.C. § 102(b) as being anticipated by Terry (U.S. Patent No. 5,112,221) is respectfully traversed.

Terry describes using an elongated resilient wire (1) to aid in the eruption of palatally impacted teeth. The wire has a first end that is formed into the shape of a loop (3) and a second end that is formed as a coil spring (5). The body of the wire extending between the first and second ends is **substantially linear**. The second end of the wire is coupled to a split tubular member (7) and the wire first end is coupled to an eyelet (13) by an elastic ligature. Notably, Terry does not describe nor suggest that the wire can apply a substantially constant force to the tooth, but rather the amount of force exerted by the extrusion spring arm to the tooth is dependant upon the relative location of the tooth (i.e., the end of the wire coupled to the armature) with respect to the opposite end of the wire (i.e., the end coupled to the the coil spring). Accordingly, the coil spring induces a **variable force** to the tooth.

Claim 1 recites an apparatus for facilitating treatment of a tooth that is at least partially impacted, wherein the apparatus comprises “a wire comprising a first end, a second end, and a substantially planar body extending non-linearly therebetween...said second end configured to secure said apparatus relative to the tooth, such that said wire applies a substantially constant force to the tooth.

Terry does not describe nor suggest an apparatus for facilitating treatment of a tooth that is at least partially impacted, wherein the apparatus is secured relative to the tooth such that the apparatus wire applies a substantially constant force to the tooth. Rather, in contrast to the present invention, Terry describes a wire that exerts a variable force to the tooth depending upon a relative location of the extrusion arm with respect to the coil spring. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Terry.

Claims 2, 3, 5, 6, 8, and 9 depend from independent Claim 1. When the recitations of Claims 2, 3, 5, 6, 8, and 9 are considered in combination with the recitations of Claim 1, Applicant submits that dependent Claims 2, 3, 5, 6, 8, and 9 likewise are patentable over Terry.

Claim 11 recites a method for treating a tooth that is at least partially impacted. The method comprises “coupling a first end of a wire to an impacted tooth, the wire having a substantially planar and non-linear body extending between the first end and a second end...coupling the wire second end to an anchoring device such that the wire applies a substantially constant force to the impacted tooth.”

Terry does not describe nor suggest a method for treating a tooth that is at least partially impacted wherein the method includes coupling a first end of a wire to an impacted tooth such that the wire applies a substantially constant force to the impacted tooth, and wherein the wire has a non-linear body extending between the first and second ends of the wire. Rather, in contrast to the present invention, Terry describes a wire that has a substantially linear body extending between its ends. Moreover, Terry describes a wire that exerts a variable force to the tooth depending upon a relative location of the extrusion arm with respect to the coil spring. Accordingly, for at least the reasons set forth above, Claim 11 is submitted to be patentable over Terry.

Claims 12-14, and 16-18 depend from independent Claim 11. When the recitations of Claims 12-14, and 16-18 are considered in combination with the recitations of Claim 11,

Applicant submits that dependent Claims 12-14, and 16-18 likewise are patentable over Terry.

Accordingly, for at least the reasons set forth above, Applicant respectfully requests the Section 102 rejection of Claims 1-3, 5, 6, 8, 9, 11-14, and 16-18 be withdrawn.

The rejection of Claims 4, 7, 10, and 15 under 35 U.S.C. § 103 as being unpatentable over Terry in view of Sachdeva et al. (U.S. Pat. No. 5,312,247) is respectfully traversed.

Terry is described above.

Sachdeva et al. describes an orthodontic appliance (10) used to move at least two teeth to desired positions and/or to expand a patient's midpalatal suture. The appliance includes a trans-palatal arch bar (14) that includes terminal ends (16) that are embedded in teeth-abutting members (18). The teeth-abutting members apply corrective forces induced by the arch bar to several teeth **on opposite sides of the same** patient's dental arch. As such, Sachdeva do not describe nor suggest a wire that induces an eruptive force or that facilitates treatment of a tooth that is at least partially impacted.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. No combination of Terry and Sachdeva et al. describes or suggests the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Terry with Sachdeva et al. because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests to combine the disclosures, other than Applicants' own teaching. Rather, only the conclusory statement that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus which uses the force of the spring of Terry with the wire of superelastic material of Sachdeva et al." suggests combining the disclosures.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicants' disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

Moreover, as is well established, the mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. See In re Gordon, 221 U.S.P.Q.2d 1125 (Fed. Cir. 1984). Furthermore, the Federal Circuit has determined that:

[i]t is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

In re Fitch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

Further, under Section 103, "it is impermissible...to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." In re Wesslau, 147 USPQ 391, 393 (CCPA 1965). Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicants' disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion nor motivation to combine the cited art, nor any reasonable expectation of success has been shown. Accordingly, since there is no teaching nor suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and

chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants request that the Section 103 rejection of Claims 4, 7, 10, and 15 be withdrawn.

Moreover, if art “teaches away” from a claimed invention, such a teaching supports the nonobviousness of the invention. U.S. v. Adams, 148 USPQ 479 (1966); Gillette Co. v. S.C. Johnson & Son, Inc., 16 USPQ2d 1923, 1927 (Fed. Cir. 1990). In light of this standard, it is respectfully submitted that the cited art, as a whole, is not suggestive of the presently claimed invention. Specifically, Applicants respectfully submit that Sachdeva et al. and Terry teach away from the present invention, and as such, there is no suggestion or motivation to combine either Terry with Sachdeva et al. Specifically, in contrast to the present invention, Terry describes a wire that has a substantially linear body extending between its ends, and that exerts a **variable force** to the tooth, and in contrast to Terry and the present invention, Sachdeva et al. describe a wire that is coupled **between teeth** on opposite sides of the patients mouth. Accordingly, Terry and Sachdeva teach away from the present invention, and from each other, and as such, any combination of the cited art appears to support the nonobviousness of the present invention.

In addition, and to the extent understood, no combination of Terry and Sachdeva et al. describes or suggests the claimed invention. Specifically, Claim 1 recites an apparatus for facilitating treatment of a tooth that is at least partially impacted, wherein the apparatus comprises “a wire comprising a first end, a second end, and a substantially planar body extending therebetween...said second end configured to secure said apparatus relative to the tooth, such that said wire applies a substantially constant force to the tooth.

No combination of Terry and Sachdeva et al. describes or suggests an apparatus for facilitating treatment of a tooth that is at least partially impacted, wherein the apparatus is secured relative to the tooth such that the apparatus wire applies a substantially constant force to the tooth. Rather, in contrast to the present invention, Terry describes a wire that exerts a variable force to the tooth, and Sachdeva et al. describe an apparatus that is coupled between

a pair of teeth. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Terry in view of Sachdeva et al.

Claims 4, 7, and 10 depend from independent Claim 1. When the recitations of Claims 4, 7, and 10 are considered in combination with the recitations of Claim 1, Applicant submits that dependent Claims 4, 7, and 10 likewise are patentable over Terry in view of Sachdeva et al.

Claim 15 depends from independent Claim 11 which recites a method for treating a tooth that is at least partially impacted. The method comprises “coupling a first end of a wire to an impacted tooth, the wire having a substantially planar and non-linear body extending between the first end and a second end; and coupling the wire second end to an anchoring device such that the wire applies a substantially constant force to the impacted tooth.”

No combination of Terry and Sachdeva et al. describes or suggests a method for treating a tooth that is at least partially impacted wherein the method includes coupling a first end of a wire to an impacted tooth such that the wire applies a substantially constant force to the impacted tooth, and wherein the wire has a non-linear body extending between the first and second ends of the wire. Rather, in contrast to the present invention, Terry describes a wire that exerts a variable force to the tooth, and Sachdeva et al. describe an apparatus that is coupled between a pair of teeth. Accordingly, for at least the reasons set forth above, Claim 11 is submitted to be patentable over Terry in view of Sachdeva et al.

Claim 15 depends from independent Claim 11. When the recitations of Claim 15 are considered in combination with the recitations of Claim 11, Applicant submits that dependent Claims 15 likewise is patentable over Terry in view of Sachdeva et al.

Accordingly, for at least the reasons set forth above, Applicant respectfully requests the Section 103 rejection of Claims 4, 7, 10, and 15 be withdrawn.



In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'R. B. Reeser III', is written over a horizontal line.

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